

Bai, Ziqian (白梓仟)

E-mail: zqbai.jeremy@gmail.com; ziqian_bai@sfu.ca

Mobile: +1 778 681 1049; +86 186 0075 5519

Education:

Simon Fraser University

Sep 2018 – Jul 2021 (expected)

Master of Science in Computing Science, supervised by Prof. Ping Tan

- GPA: 4.13/4.33
- Course Taken: CMPT 726 Machine Learning; CMPT 882 Principles of Robotic Decision Making; CMPT 985 Computational Photography and Image Manipulation; CMPT 762 Computer Vision; CMPT 705 Design/Analysis Algorithms.

The Chinese University of Hong Kong

Sep 2014 – Jul 2018

Bachelor of Science in Computer Science

- GPA: 3.765/4.0, Major GPA: 3.957/4.0

Publications:

Ziqian Bai, Zhaopeng Cui, Xiaoming Liu, Ping Tan. "Learning to Optimize Riggable 3D Face Reconstruction." In Submission, 2020.

Ziqian Bai, Zhaopeng Cui, Jamal Ahmed Rahim, Xiaoming Liu, Ping Tan. "Deep Facial Non-Rigid Multi-View Stereo." In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.

Luwei Yang*, **Ziqian Bai***, Chengzhou Tang, Honghua Li, Yasutaka Furukawa, Ping Tan. "SANet: Scene Agnostic Network for Camera Localization." In *International Conference on Computer Vision (ICCV)*, 2019. (* indicates equal contribution)

Sanghamitra Dutta*, **Ziqian Bai***, Haewon Jeong, Tze Meng Low, Pulkit Grover. "A Unified Coded Deep Neural Network Training Strategy based on Generalized PolyDot Codes." In *IEEE International Symposium on Information Theory (ISIT)*, 2018. (* indicates equal contribution)

Sanghamitra Dutta, **Ziqian Bai**, Tze Meng Low, and Pulkit Grover. "CodeNet: Training Large Scale Neural Networks in Presence of Soft-Errors." In Submission, 2018.

Research Experience:

Simon Fraser University (SFU)

Sep 2018 – present

Research Assistant. GrUVi Lab (Supervised by Prof. Ping Tan)

Research Project: RGB Camera Localization. 3D Face Reconstruction.

- Proposed the first learning-based RGB camera localization algorithm that can handle novel scenes and scene updates on-the-fly with real-time requirements (e.g. in SLAM).
- Proposed the non-rigid multi-view stereo 3D face reconstruction algorithm (i.e. 3D reconstruction from **unsynchronized** multi-view images) that novelly fuses deep learning and multi-view geometry under non-rigid setting.
- Proposed a learning-to-optimize framework to reconstruct a personalized face rig as well as per-image parameters (i.e. expressions, poses, illuminations) from monocular RGB images.

Alibaba V Lab, Hangzhou

Jun 2019 – Aug 2019

Research Intern. (Supervised by Dr. Ping Tan)

Research Project: Non-rigid multi-view 3D face reconstruction.

SenseTime Group Limited, Hong Kong

Jun 2018 – Aug 2018

Research Intern. R&D (Supervised by Dr. Qiong Yan)

Research Project: Guided facial image enhancement.

The Chinese University of Hong Kong (CUHK)

Sep 2017 – May 2018

Graduation Thesis. *Virtual Reality, Visualization and Imaging Research Center (Supervised by Prof. Pheng Ann Heng)*
Research Project: Unpaired Multi-Model Image-to-Image Translation

Carnegie Mellon University (CMU)

Jun 2017 – Sep 2017

Research Intern. *Dept. of Electrical & Computer Eng. (Supervised by Prof. Pulkit Grover)*

Research Project: Coded Computing for Training Distributed Deep Neural Networks

- Proposed a new coding strategy by generalizing PolyDot codes with *garbage alignment*, i.e. aligning computations in coded computing that are not a part of the desired output
- Applied generalized PolyDot codes to DNN training and inference
- Designed and implemented a compact deep learning platform for testing coded DNN training strategies under different scenarios, including straggling, processor fault, and soft error

Honors and Awards:

- SFU Graduate Fellowship 2018/19
- HKSAR Government Scholarship 2017/18
- Professor Charles K. Kao Research Exchange Scholarship 2016/17, for summer research at CMU (only one among Faculty of Engineering)
- Chung Chi College Departmental Prize 2017/18
- Chung Chi College Class Scholarship, awarded for 2 times
- ELITE Stream Student Scholarship 2016/17 - 2017/18
- Computer Science and Engineering Entrants Scholarship 2014/15
- Dean's List of Faculty of Engineering 2014/15 - 2017/18
- Certificate of First Place Prize, National Olympiad in Informatics in Provinces (Beijing) 2013
- Certificate of Second Place Prize, National Olympiad in Informatics in Provinces (Beijing) 2011

Other Internships:

KEEP Summer Internship Program, CUHK

May 2016 - Jul 2016

Summer Intern

Summer Internship in KEEP (Knowledge & Education Exchange Platform) project under CSE Department of the Chinese University of Hong Kong

- Built a web crawler for getting course information from 11 different online course platforms
- Utilized scikit-learn to construct NLP (Natural Language Processing) course classifier for categorizing 30000+ courses into 63 topics